Commission on Government Forecasting and Accountability

PENSION IMPACT NOTE
104th General Assembly

BILL NO:	**SB 1726**	March 10, 2025
SPONSOR (S):	Martwick	
SYSTEM:	Downstate Police & Fire, Chicago Police & Fire, IMRF, SERS, SURS, and CTPF	

FISCAL IMPACT

SB 1726 mirrors HB 3765, as amended by HA 3, from the 103rd General Assembly. Two separate actuarial studies were conducted on the DROP provisions of this bill. According to Segal, the DROP plan inHB 3765, as amended by HA 3, from the 103rd GA, would increase total State contributions (nominal dollars) through 2045 by $41 million for SERS and $9 million for SURS, resulting in a $50 million increase. A summary chart of the impact of a DROP plan on the cities of Aurora and Rock Falls is also shown below. For more information, please see the full actuarial study from Segal found in Appendix I and the full actuarial study from Foster & Foster in Appendix II.

Segal also found that adding Lottery Investigators and certain employees of the Department of Juvenile Justice to the alternative formula under SERS would increase state contributions by $528 million through FY 2045. When factoring in the cost of the DROP plan alongside these alternative formula changes, the total projected impact on state contributions SERS rises to $570 million through FY 2045.

SUBJECT MATTER: SB 1726 is a pension reform omnibus bill that adjusts various components of the Tier 2 benefit structure of the Downstate Firefighters', Downstate Police, Chicago Firefighters', Chicago Police, IMRF, SERS, SURS, and the Chicago Teachers' Pension Fund (CTPF). Below are two summary tables of the aforementioned actuarial studies on the major provisions of the bill.

(Savings)/Cost of Total State Contributions Through FY 2045 ($$$) in Millions			
	SERS	SURS	Total
Baseline	$ -	$ -	$ -
DROP Implementation (With Interest)	$ 41.0	$ 9.0	$ 50.0
Members of Departments of Lottery and Juvenile Justice Eligible for Alt.	$ 528.0	N/A	N/A
Combined Changes	$ 570.0	N/A	N/A

(Savings)/Cost of Municipal Contributions through 2040 Aurora & Rock Falls Police/Fire Funds ($$$) in Millions			
	Baseline	Scenario 1 Impact	Scenario 2 Impact
Aurora Police	$ 262.47	$ 12.66	$ 8.58
Aurora Fire	$ 184.55	$ 13.05	$ 10.05
Rock Falls Police	$ 10.59	$ 0.37	$ 0.21
Rock Falls Fire	$ 3.90	$ 0.24	$ 0.20

Note – Scenario 1 assumes 100% DROP participation for 5 years, the maximum period allowed under the bill. Scenario 2 assumes 80% participation in the DROP for a period of 3 years.

COMMENT:

Deferred Retirement Option Plan (DROP) for Public Safety Officials in the following systems: Downstate Fire, Downstate Police, Chicago Fire, Chicago Police, IMRF, Cook County Employees', SERS, & SURS

DROP Explanation

- Deferred Retirement Option Plans (DROP) are designed to encourage continued employment past the eligible retirement age for a period of time (usually 3-5 years). Below is a summary of the salient features of DROP plans:
  - Workers continue to draw a salary but are considered retired (for annuity purposes);
  - The pension annuity amount the worker is entitled to receive starting on the date they are considered "retired" (DROP date) is credited to the member's individual DROP account; and
  - Upon completion of the DROP period, the member's DROP account balance is available in a lump-sum amount, which can be distributed in any of the following ways:
    - a one-time payment;
    - a payment plan over time;

  - a payment rolled into an IRA.

SB 1726 DROP Provisions

- No later than January 1, 2027, a DROP plan will be made available within the pertinent system or fund for eligible members, regardless of Tier status, in the aforementioned systems. Eligible participants must meet the following criteria:
  - The member must be eligible to retire with a full and unreduced pension as determined by the pertinent system;
  - The member must not be in receipt of a disability or retirement annuity at the time of election;
  - The member must not be subject to mandatory retirement under the law and will not become subject to such a retirement age during participation in the DROP;
  - The member must be actively employed as a police officer or firefighter in the above-mentioned articles of the Pension Code; and
  - DROP participants must continue making active contributions to their fund but do not accrue additional service credit during this period.

- Participation in the DROP must be elected by the eligible members no later than January 1, 2030, the decision is irrevocable, unless:
  - The DROP participant terminates employment prior to the expiration of the designated DROP period;
  - The DROP participant becomes eligible for and begins collecting a disability benefit from the pension fund or retirement system;
  - The death of the DROP participant occurs during the designated DROP period;

- The DROP duration is not to exceed 5 years.

- Individual DROP accounts shall consist of:
  - The monthly retirement annuity the participant would have been eligible to receive if the participant had terminated service on the date of participation in the DROP, as well as any benefits from a reciprocal system;
  - Employee contributions paid by the participant during the DROP period; and
  - Any auto-increases the member would have been eligible to receive if the participant had terminated service on the date he or she entered the DROP.

- Individual DROP accounts accrue interest based on the actual rate of return on investment experienced by the applicable Fund or System.

- Upon expiration or termination of the member's participation in the DROP, the member will receive the retirement annuity that they would have received had they retired on the date they entered the DROP with applicable automatic increases accrued during the DROP duration, plus the balance in their individual DROP account.
  - DROP participation may not extend beyond January 1, 2035.

Placing Downstate Police & Fire and Chicago Police & Fire Articles Under the Ambit of the Retirement Systems Reciprocal Act

Current Law

Under current law, the Downstate Police, Downstate Firefighters', Chicago Police, & Chicago Firefighters' Articles of the Illinois Pension code are not included under the Retirement Systems Reciprocal Act. Under the Downstate Police and Fire articles, reciprocity exists between the funds within each respective article.

The Retirement Systems Reciprocal Act allows for active employees to combine service credit earned from various participating systems to apply towards the minimum vesting requirements of the fund that they participate in currently or the fund that they last participated in before terminating active service. For example, a Tier 2 member in IMRF could utilize reciprocity and combine 4 years of prior service in SERS and 6 years in IMRF to meet the 10-year Tier 2 vesting requirement in IMRF.

SB 1726

SB 1726 would place the Downstate Police, Downstate Firefighters', Chicago Police, and Chicago Firefighters' Articles of the Illinois Pension Code under the ambit of the Reciprocal Act. The bill states that participation under the Reciprocal Act would only apply to members who have not yet begun receiving retirement annuities as of the effective date. In other words, retired members would not be entitled to a recalculation of their pensions based upon reciprocal service.

Alternative Formula Eligibility for Investigators of the Department of Lottery

The current SERS retirement benefits for both Tier 1 & 2 Investigators for the Department of the Lottery are detailed in the chart found below:

Current Law						
Employee	**Tier**	**SS-Coordinated?**	**Contribution Rate**	**Multiplier**	**Full Retirement**	**Reduced Retirement**
Investigator for the Dept. of Lottery	1	No	8%	2.20%	Age 60 with 8 years of service credit OR Rule of 85	Ages 55-60 with 25-30 years (Reduced 1/2 of 1% every year under age 60)
Investigator for the Dept. of Lottery	2	No	8%	2.20%	Age 67 with 10 years service credit	Ages 62-67 with 10 years (Reduced 1/2 of 1% every year under age 67)
SB 1726						
Investigator for the Dept. of Lottery	1	No	12.5%	3.00%	Age 55 with 20 years of service OR Age 50 with 25 years of service	N/A
Investigator for the Dept. of Lottery	2	No	12.5%	3.00%	Age 55 with 20 years of service	N/A

SB 1726 amends the Illinois Pension Code to allow participation in the SERS Alternative Formula for Tier 1 and Tier 2 investigators for the Department of the Lottery.

Alternative Formula Participation for Certain Security Employees of the Department of Juvenile Justice

Currently, in order for a security employee of the Department of Juvenile Justice to participate in the SERS alternative formula, the employee must be employed in a position at a DJJ facility and have involvement in areas such as training of delinquent youths, providing rehabilitative and vocational training, and assisting other personnel who perform these duties. Additionally, the employee must:

- Be over the age of 21; and
- Possess a high school diploma or equivalent and either:
    - A bachelor’s or advanced degree from an accredited college or university; or
    - 2 or more years of experience providing direct care to youth in the form of residential care, coaching, case management, or mentoring.

SB 1726 stipulates that the bachelor’s or advanced degree requirement shall no longer determine eligibility for the alternative formula for the above-mentioned positions at DJJ. Affected employees may convert their prior regular formula service to alternative formula service by paying the difference between the employee contributions for that period of service and the amounts that would have been contributed had the member been participating in the alternative formula from the date of service to the date of payment. The member is not required to pay the employer’s normal cost nor interest for the period of service they wish to upgrade.

Adjusting the Chicago Teachers' Pension Fund's Pensionable Service Credit Accrual Schedule

Under current law, CTPF members accrue service credit in the following ways:

- one day of service credit for each day of salary representing a partial or full day of employment;
- 17 or more days of service constitutes a month; and
- 170 days or more of service, or 10 or more months constitutes a year.

SB 1726 allows teachers to receive either their current service credit accrual or ten days of credit for each 10-day period in which they worked at least 50% of their scheduled hours, whichever is greater. (170 days of service is needed to establish one year of service credit in CTPF.)

Under current law, TRS members receive one year of service credit for 170 days of salary representing a full day of employment. TRS members who earn salary for less than 170 days receive service credit at a ratio of the number of days paid to 170 days. SURS members receive one year of service credit for 8 or more months of service, ¾ of one year for 6-7 months of service, ½ of one year for 3-5 months of service, and ¼ of one year for 1-2 months of service.

SB 1726 is identical to HB 2856 from the 104th GA. The DROP provisions in SB 1726 are identical to those found in HB 3765, as amended by HA 3, from the previous General Assembly.

HB 3765, HA 3 passed the House 109-0-0 on May 22, 2024, but was not taken up in the Senate.

ZH:bs
LRB104 11074 RPS 21156 b

Segal

101 North Wacker Drive, Suite 500
Chicago, IL 60606-1724
segalco.com

November 7, 2024

Via Email

Clayton Klenke
Executive Director
Commission on Government Forecasting and Accountability (CoGFA)
703 Stratton Office Bldg.
Springfield, IL 62706

Re: Actuarial Impact Study – Pension Reform – HB 3765

Dear Clayton:

As requested, we have analyzed the impact to projected costs for the State Employees' Retirement System (SERS) and the State Universities Retirement System (SURS) as outlined in House Bill 3765 (HB 3765) and amended under House Floor Amendments No. 2 (HA 2) and No. 3 (HA 3). Due to limited data available, this analysis does not consider the impact of these changes for Downstate Police, Downstate Firefighters', Chicago Firefighters', Chicago Police, Illinois Municipal Retirement Fund (IMRF), or the Chicago Teachers' Pension Fund (CTPF).

The following table provides a high-level summary of the impact of the individual and combined proposed changes outlined in HB 3765 on the State contribution amounts through fiscal year ending June 30, 2045 for each System. Additional details are included later in the letter (DROP = Deferred Retirement Option Plan).

$ in millions	SERS	SURS	Total
(Savings)/Cost on Total State Contributions through FYE 2045			
Baseline	-	-	-
DROP Implementation Under HA 2 (Without Interest)	$19	$6	$25
DROP Implementation Under HA 3 (With Interest)	41	9	50
Members of Depts. of Lottery and Juvenile Justice Eligible for Alt. Formula	528	N/A	N/A
Combined Changes Under HA 2 (Without Interest)	547	N/A	N/A
Combined Changes Under HA 3 (With Interest)	570	N/A	N/A

This analysis is based on the provisions of the respective Systems. The information contained in this document, as well as the accompanying exhibits, were prepared using actuarial assumptions and methods consistent with those employed in the actuarial valuations of the Systems as of June 30, 2023 (dated December 22, 2023 for SERS and November 7, 2023 for SURS), except as otherwise noted below.

Proposed Benefit Changes

We have analyzed the proposed benefit / provision changes per HB 3765, as summarized below. For this analysis, we have determined the impact of each change separately, as well as the total impact of all changes combined. Note that, due to constraints of available data, this analysis only considers the impact of benefit changes for the two Systems noted above, and, as such, some changes are not considered for this analysis (which are noted below).

1. Adds Deferred Retirement Option Plan (DROP) provisions to applicable Tier 1 and Tier 2 members of Downstate Police, Downstate Firefighters', Chicago Firefighters', Chicago Police, IMRF, CTPF, SERS, and SURS, effective January 1, 2026. Members must be actively employed as a police officer or firefighter, eligible to retire with a full and unreduced pension as determined by the pertinent system, and elect DROP participation no later than January 1, 2029. DROP duration is not to exceed five years. Individual DROP accounts consist of:

   - The retirement annuity that they would have received had the member retired the date they entered the DROP (including any automatic annual increases);
   - Employee contributions paid by the participant during the DROP period; and,
   - Auto increases that the participant would have been eligible to receive if the participant had terminated service upon entering the DROP.

   Upon retirement, the member will begin receiving the retirement annuity they would have received had the member retired on the date they entered the DROP, including any anticipated COLA increases during the DROP period, plus the balance in the member's individual DROP account.

   Under HA 2, no interest will be credited to individual DROP account balances.

   Under HA 3, individual DROP accounts accrue interest based on the actual rate of investment return experienced by the applicable Fund or System.

   [Downstate Police, Downstate Firefighters', Chicago Firefighters', Chicago Police, IMRF, and CTPF not included in this analysis]

2. Downstate Police, Downstate Firefighters', Chicago Police, and Chicago Firefighters' Articles of the Illinois Pension Code are placed under the ambit of the Reciprocal Act, which affects reciprocity for vesting.

   [Not included in this analysis]

3. Amends Illinois Pension Code to allow participation in SERS Alternative Formula for Tier 1 and Tier 2 investigators for the Department of the Lottery as well as certain Tier 1 and Tier 2 members of the Department of Juvenile Justice (due to expansion of Department of Juvenile Justice eligibility for creditable service by removing the bachelor's or advanced degree requirement).

Actuarial Analysis

The analysis was based upon the census data and actuarial assumptions used in the June 30, 2023, actuarial valuations for SERS and SURS. For purposes of this analysis, all changes are assumed to be effective as described in the 'Proposed Benefit Changes' section.

The following assumptions and methods were implemented for the purpose of determining the impact of the benefit and/or provision changes under the various elements of HB 3765. The numbering below corresponds with the numbers under the 'Proposed Benefit Changes' section:

1. The DROP duration is assumed to be 5 years for all eligible participants. **90% of eligible Tier 1 and Tier 2 active members (employed as a police officers or firefighters in the SERS or SURS articles of the Pension Code) are assumed to participate in the DROP under HA 2**. As of June 30, 2023, there are approximately 630 (of a total active count of 61,651) and 180 (of a total active count of 71,121) total members that are projected to be eligible to participate in the DROP for SERS and SURS, respectively.

   Under HA 3, individual DROP accounts are assumed to return 6.75% for SERS and 6.50% for SURS, on average, over the long-term, which takes into account the possibility of returns below zero. To model interest credited to DROP accounts (which we understand cannot be less than zero), we have estimated the interest crediting rate will be 200 basis points higher than the current investment return assumption (i.e., 8.75% for SERS and 8.50% for SURS). **100% of eligible Tier 1 and Tier 2 active members are assumed to participate in the DROP under HA 3.**

2. [Not included in this analysis]

3. The analysis assumes 100% of current Tier 1 and Tier 2 investigators for the Department of Lottery opt to participate in the SERS Alternative Formula as well as applicable Tier 1 and Tier 2 members of the Department of Juvenile Justice (according to position codes received from CoGFA on October 1, 2024 identifying affected members). The following actuarial assumptions are modified to value the impact for eligible Tier 2 members:

   - The current age 60 retirement rate applicable for Tier 2 members eligible for Alternative Formula benefits (i.e., the age at first retirement eligibility under current provisions) is now assumed to apply at age 55; and,

   - The assumed age 56-60 retirement rates are set to the same rates assumed for Tier 1 members eligible for Alternative Formula benefits.

The following tables summarize the impact of the proposed benefit changes on the System's actuarial accrued liability (AAL) and projected State contribution amounts through FY2045. The attached exhibits show in greater detail the projected contributions, actuarial liabilities, actuarial assets, funded position, and benefit payments through 2045 reflecting the changes outlined above.

This analysis has been prepared at your request and is not to be considered a recommendation by Segal. Numbers shown have been rounded to the nearest million and may not always sum exactly due to rounding.

Summary of Results for All Systems

$ in millions	SERS	SURS	Total
AAL as of June 30, 2023			
Baseline	$54,003	$51,653	$ 105,656
DROP Implementation Under HA 2 (Without Interest)	54,026	51,659	105,685
DROP Implementation Under HA 3 (With Interest)	54,043	51,662	105,705
Members of Depts. of Lottery and Juvenile Justice Eligible for Alt. Formula	54,104	N/A	N/A
Combined Changes Under HA 2 (Without Interest)	54,127	N/A	N/A
Combined Changes Under HA 3 (With Interest)	54,145	N/A	N/A
(Decrease)/Increase in AAL as of June 30, 2023			
Baseline	-	-	-
DROP Implementation Under HA 2 (Without Interest)	$23	$6	$29
DROP Implementation Under HA 3 (With Interest)	40	9	49
Members of Depts. of Lottery and Juvenile Justice Eligible for Alt. Formula	101	N/A	N/A
Combined Changes Under HA 2 (Without Interest)	124	N/A	N/A
Combined Changes Under HA 3 (With Interest)	142	N/A	N/A
State Contribution for FYE 2026			
Baseline	$2,596	$2,297	$4,893
DROP Implementation Under HA 2 (Without Interest)	2,597	2,297	4,894
DROP Implementation Under HA 3 (With Interest)	2,598	2,297	4,895
Members of Depts. of Lottery and Juvenile Justice Eligible for Alt. Formula	2,621	N/A	N/A
Combined Changes Under HA 2 (Without Interest)	2,622	N/A	N/A
Combined Changes Under HA 3 (With Interest)	2,623	N/A	N/A
(Savings)/Cost on State Contribution for FYE 2026			
Baseline	-	-	-
DROP Implementation Under HA 2 (Without Interest)	$1	$-	$1
DROP Implementation Under HA 3 (With Interest)	2	-	2
Members of Depts. of Lottery and Juvenile Justice Eligible for Alt. Formula	25	N/A	N/A
Combined Changes Under HA 2 (Without Interest)	26	N/A	N/A
Combined Changes Under HA 3 (With Interest)	27	N/A	N/A
Total State Contributions through FYE 2045			
Baseline	$70,633	$65,025	$135,658
DROP Implementation Under HA 2 (Without Interest)	70,652	65,031	135,683
DROP Implementation Under HA 3 (With Interest)	70,674	65,034	135,708
Members of Depts. of Lottery and Juvenile Justice Eligible for Alt. Formula	71,161	N/A	N/A
Combined Changes Under HA 2 (Without Interest)	71,180	N/A	N/A
Combined Changes Under HA 3 (With Interest)	71,203	N/A	N/A
(Savings)/Cost on Total State Contributions through FYE 2045			
Baseline	-	-	-
DROP Implementation Under HA 2 (Without Interest)	$19	$6	$25
DROP Implementation Under HA 3 (With Interest)	41	9	50
Members of Depts. of Lottery and Juvenile Justice Eligible for Alt. Formula	528	N/A	N/A
Combined Changes Under HA 2 (Without Interest)	547	N/A	N/A
Combined Changes Under HA 3 (With Interest)	570	N/A	N/A

Summary of Results for All Systems (continued)

$ in millions	SERS	SURS	Total
Present Value of Total State Contributions through FYE 2045			
Baseline	$35,243	$32,818	$68,061
DROP Implementation Under HA 2 (Without Interest)	35,253	32,821	68,074
DROP Implementation Under HA 3 (With Interest)	35,263	32,823	68,086
Members of Depts. of Lottery and Juvenile Justice Eligible for Alt. Formula	35,516	N/A	N/A
Combined Changes Under HA 2 (Without Interest)	35,525	N/A	N/A
Combined Changes Under HA 3 (With Interest)	35,536	N/A	N/A
(Savings)/Cost on Present Value of Total State Contributions through FYE 2045			
Baseline	-	-	-
DROP Implementation Under HA 2 (Without Interest)	$10	$3	$13
DROP Implementation Under HA 3 (With Interest)	20	5	25
Members of Depts. of Lottery and Juvenile Justice Eligible for Alt. Formula	273	N/A	N/A
Combined Changes Under HA 2 (Without Interest)	282	N/A	N/A
Combined Changes Under HA 3 (With Interest)	293	N/A	N/A

Comments about DROPs

DROPs are often used as a workforce management tool (e.g., retaining certain employees at particular ages or service bands when replacing them can be difficult). They can be designed to be “expected cost neutral”, meaning that its implementation is not anticipated to increase the present value of costs to the System (compared to what would have been otherwise). The reality is that DROPs typically change employee behavior enough or add enough financial enhancements that result in additional costs when put into place.

Interest credited to DROP accounts may also add cost to a pension plan as anything credited over the current investment return assumption is potentially obligated to pay interest at a level that exceeds what was earned on plan assets during a given year. For example, in HA 3 described herein, interest is credited to the account at what the plan actually earns but cannot go below 0%. If the assets of the plan achieve a return of -3% on a market value basis in a year, plan assets in the trust adjust accordingly but DROP accounts do not lose any value, so effectively “earning” 3% higher than what the plan earned. DROP accounts will realize a higher return than all other plan assets, hence driving up costs for those benefits.

Accelerated payment of benefits plus proposed interest credited to DROP account balances are the main drivers of estimated State contribution increases shown above. Cash flows of the Systems should also be considered with scenarios projecting higher and/or earlier benefit payments than under the baseline scenarios. If the implementation of the DROP results in members entering the DROP sooner than they would otherwise be assumed to retire, it will cause benefit payments to start being made earlier than assumed under the original plan design. Depending on the amount of benefit payments (they may be slightly lower if taken earlier than assumed), this may increase the costs to a pension plan unless payments have an actuarial equivalence reduction.

Comments about Projections

Projections, by their nature, are not a guarantee of future results. The modeled projections are intended to serve as estimates of future financial outcomes that are based on the information available to us at the time the modeling is undertaken and completed, and the agreed-upon assumptions and methodologies described herein. Emerging results may differ significantly if the actual experience proves to be different from these assumptions or if alternative methodologies are used.

The assumptions for this projection and analysis are based on those listed in the 2023 actuarial valuation report for SERS and SURS (except as otherwise noted in this letter). As noted, the results of these projections are based on all assumptions materializing as expected, including the 6.75% investment return for SERS and the 6.50% investment return for SURS as well as the 60% utilization assumption for HA 2 implementation and the 85% utilization assumption for HA 3 implementation. To the extent there is adverse experience, the projection scenarios would generate larger required State contributions. Given the relatively low funded status of the Systems, investment returns that are less than expected represent a significant risk to the magnitude of the State's required contributions. Additionally, the proposed changes outlined in HB 3765 could affect actual patterns of decrement (e.g., termination, retirement) compared to the current assumptions, which may result in larger (or smaller) required State contributions.

Actual experience may differ due to such variables as demographic experience, the economy, stock market performance, and the regulatory environment. The longer the projection period, the less predictable the projections become.

Segal valuation results are based on proprietary actuarial modeling software. The actuarial valuation models generate a comprehensive set of liability and cost calculations that are presented to meet regulatory, legislative, and client requirements. Deterministic cost projections are based on our proprietary forecasting model. Our Actuarial Technology and Systems unit, comprised of both actuaries and programmers, is responsible for the initial development and maintenance of these models. The models have a modular structure that allows for a high degree of accuracy, flexibility, and user control. The client team programs the assumptions and the plan provisions, validates the models, and reviews test lives and results, under the supervision of the responsible actuaries.

Segal is not a law firm and we cannot offer legal advice. Any party seeking a legal opinion should consult with appropriate legal counsel.

This analysis was performed under my supervision. I am a Member of the American Academy of Actuary and meet the Qualification Standards for Actuaries Issuing Statements of Actuarial Opinion in the United States of the American Academy of Actuaries to render the actuarial opinion contained herein.

Please let us know if you have any questions.

Sincerely,

Matthew A. Strom, FSA, MAAA, EA
Senior Vice President and Actuary

Funding Projections for the State Employees' Retirement System
CoGFA Projections Based on Laws in Effect on June 30, 2023, Baseline
Actuarially Assumed Rate of Return: 6.75%
($ in millions)

Fiscal Year Ending 6/30	Annual Payroll	Total State Contribution	State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
2023					$54,002.7	$24,072.1	$29,930.6	44.6%
2024	$5,139.9	$2,583.8	50.3%	$287.0	55,168.5	25,172.1	29,996.3	45.6%
2025	5,223.0	2,552.6	48.9%	289.6	56,261.7	26,268.1	29,993.6	46.7%
2026	5,307.3	2,596.4	48.9%	292.4	57,276.8	26,651.9	30,625.0	46.5%
2027	5,391.3	2,634.7	48.9%	295.1	58,206.7	27,635.7	30,571.0	47.5%
2028	5,477.0	2,726.0	49.8%	297.8	59,052.0	28,668.1	30,383.9	48.5%
2029	5,569.8	2,750.5	49.4%	301.1	59,816.7	29,669.5	30,147.2	49.6%
2030	5,668.3	2,791.0	49.2%	304.8	60,504.5	30,661.2	29,843.3	50.7%
2031	5,772.3	2,835.5	49.1%	309.0	61,115.5	31,652.4	29,463.1	51.8%
2032	5,881.3	2,888.2	49.1%	313.2	61,648.2	32,655.4	28,992.7	53.0%
2033	5,992.3	2,947.6	49.2%	317.4	62,105.6	33,684.9	28,420.6	54.2%
2034	6,110.1	3,211.4	52.6%	321.9	62,489.8	34,960.5	27,529.3	55.9%
2035	6,231.9	3,275.4	52.6%	326.4	62,806.4	36,300.0	26,506.4	57.8%
2036	6,356.1	3,340.7	52.6%	330.9	63,055.5	37,714.4	25,341.2	59.8%
2037	6,482.8	3,407.3	52.6%	335.5	63,241.7	39,217.0	24,024.7	62.0%
2038	6,617.2	3,477.9	52.6%	340.6	63,374.7	40,830.0	22,544.6	64.4%
2039	6,758.7	3,552.3	52.6%	345.9	63,461.0	42,573.5	20,887.4	67.1%
2040	6,906.3	3,629.8	52.6%	351.5	63,506.5	44,469.2	19,037.4	70.0%
2041	7,059.9	3,710.6	52.6%	357.5	63,520.2	46,540.8	16,979.3	73.3%
2042	7,220.5	3,795.0	52.6%	363.8	63,512.9	48,813.2	14,699.7	76.9%
2043	7,388.0	3,883.0	52.6%	370.4	63,493.7	51,313.1	12,180.6	80.8%
2044	7,561.7	3,974.3	52.6%	377.2	63,469.6	54,066.7	9,402.9	85.2%
2045	7,741.0	4,068.6	52.6%	384.4	63,442.7	57,098.5	6,344.3	90.0%
Total Through 2045		$70,632.6		$7,213.4				

Funding Projections for the State Universities Retirement System

CoGFA Projections Based on Laws in Effect on June 30, 2023 - Baseline
Actuarially Assumed Rate of Return: 6.50%
($ in millions)

Fiscal Year Ending 6/30	Annual Payroll*	Total State Contribution	State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
2023					$51,652.5	$23,381.2	$28,271.2	45.3%
2024	$5,382.1	$2,186.0	40.6%	$323.5	52,381.9	24,050.1	28,331.8	45.9%
2025	5,642.7	2,249.8	39.9%	338.1	53,083.3	24,918.7	28,164.6	46.9%
2026	5,760.0	2,296.6	39.9%	340.7	53,715.7	25,077.6	28,638.2	46.7%
2027	5,883.8	2,333.0	39.7%	344.0	54,280.0	25,654.4	28,625.6	47.3%
2028	6,029.3	2,430.5	40.3%	349.1	54,774.6	26,294.2	28,480.4	48.0%
2029	6,187.9	2,494.5	40.3%	355.2	55,194.5	26,940.1	28,254.5	48.8%
2030	6,349.8	2,555.8	40.2%	361.6	55,541.0	27,595.1	27,945.9	49.7%
2031	6,518.0	2,620.8	40.2%	368.2	55,810.7	28,264.8	27,545.9	50.6%
2032	6,691.6	2,694.0	40.3%	375.2	56,002.0	28,961.9	27,040.2	51.7%
2033	6,871.1	2,775.6	40.4%	382.4	56,131.9	29,717.3	26,414.6	52.9%
2034	7,058.0	2,878.6	40.8%	390.0	56,200.4	30,559.8	25,640.6	54.4%
2035	7,253.1	2,960.7	40.8%	398.0	56,217.6	31,487.4	24,730.2	56.0%
2036	7,450.5	3,043.7	40.9%	406.1	56,177.6	32,504.6	23,673.0	57.9%
2037	7,651.7	3,128.3	40.9%	414.3	56,089.5	33,631.7	22,457.8	60.0%
2038	7,858.8	3,215.4	40.9%	422.8	55,956.3	34,884.4	21,071.9	62.3%
2039	8,072.0	3,304.9	40.9%	431.6	55,793.7	36,290.9	19,502.8	65.0%
2040	8,294.0	3,398.1	41.0%	440.8	55,598.4	37,862.1	17,736.3	68.1%
2041	8,517.8	3,492.1	41.0%	450.1	55,389.9	39,629.2	15,760.8	71.5%
2042	8,749.7	3,589.3	41.0%	459.9	55,176.3	41,614.9	13,561.4	75.4%
2043	8,988.1	3,689.2	41.0%	470.1	54,978.5	43,855.3	11,123.2	79.8%
2044	9,233.5	3,791.9	41.1%	480.7	54,792.5	46,363.0	8,429.6	84.6%
2045	9,482.8	3,896.2	41.1%	491.4	54,635.9	49,172.3	5,463.6	90.0%
Total Through 2045		$65,025.0		$8,793.8				

* Includes payroll from Self Managed Plan (SMP)

Exhibit 1A – SERS Projection (DROP Implementation Under HA 2 [Without Interest] – 3-Year Offer)

Funding Projections for the State Employees' Retirement System

CoGFA Projections Based on Laws in Effect on June 30, 2023, Implement DROP Under House Floor Amendment No. 2 (Without Interest)
Actuarially Assumed Rate of Return: 6.75%
($ in millions)

			Compared to Exhibit A							
Fiscal Year Ending 6/30	Annual Payroll	Total State Contribution	(Reduction)/ Increase in State Contribution	Present Value of (Reduction)/ Increase in State Contribution	State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
2023							$54,025.7	$24,072.1	$29,953.6	44.6%
2024	$5,139.9	$2,583.8	$0.0	$0.0	50.3%	$287.0	55,189.9	25,172.1	30,017.8	45.6%
2025	5,223.0	2,553.4	0.8	0.7	48.9%	289.6	56,281.7	26,268.9	30,012.9	46.7%
2026	5,307.3	2,597.2	0.8	0.7	48.9%	292.4	57,295.8	26,653.5	30,642.2	46.5%
2027	5,391.3	2,635.5	0.8	0.6	48.9%	295.1	58,224.8	27,638.4	30,586.4	47.5%
2028	5,477.0	2,726.8	0.8	0.6	49.8%	297.8	59,069.4	28,671.8	30,397.6	48.5%
2029	5,569.8	2,751.3	0.8	0.6	49.4%	301.1	59,833.6	29,674.2	30,159.4	49.6%
2030	5,668.3	2,791.9	0.8	0.6	49.3%	304.8	60,521.3	30,667.1	29,854.2	50.7%
2031	5,772.3	2,836.3	0.9	0.5	49.1%	309.0	61,132.4	31,659.6	29,472.8	51.8%
2032	5,881.3	2,889.1	0.9	0.5	49.1%	313.2	61,648.8	32,647.4	29,001.4	53.0%
2033	5,992.3	2,948.5	0.9	0.5	49.2%	317.4	62,092.5	33,664.0	28,428.4	54.2%
2034	6,110.1	3,212.3	0.9	0.5	52.6%	321.9	62,463.9	34,927.5	27,536.4	55.9%
2035	6,231.9	3,276.3	0.9	0.4	52.6%	326.4	62,780.8	36,267.8	26,513.0	57.8%
2036	6,356.1	3,341.6	0.9	0.4	52.6%	330.9	63,030.3	37,683.0	25,347.3	59.8%
2037	6,482.8	3,408.2	1.0	0.4	52.6%	335.5	63,216.9	39,186.7	24,030.2	62.0%
2038	6,617.2	3,478.9	1.0	0.4	52.6%	340.6	63,350.3	40,800.8	22,549.5	64.4%
2039	6,758.7	3,553.3	1.0	0.4	52.6%	345.9	63,437.2	42,545.6	20,891.6	67.1%
2040	6,906.3	3,630.9	1.0	0.4	52.6%	351.5	63,483.5	44,442.8	19,040.8	70.0%
2041	7,059.9	3,711.6	1.1	0.3	52.6%	357.5	63,497.9	46,516.1	16,981.9	73.3%
2042	7,220.5	3,796.0	1.1	0.3	52.6%	363.8	63,491.5	48,790.3	14,701.2	76.8%
2043	7,388.0	3,884.1	1.1	0.3	52.6%	370.4	63,473.3	51,292.2	12,181.1	80.8%
2044	7,561.7	3,975.4	1.1	0.3	52.6%	377.2	63,450.3	54,048.0	9,402.3	85.2%
2045	7,741.0	4,069.7	1.2	0.3	52.6%	384.4	63,424.7	57,082.3	6,342.5	90.0%
Total Through 2045		$70,652.1	$19.8	$9.7		$7,213.4				

Exhibit 1B – SURS Projection (DROP Implementation Under HA 2 [Without Interest] – 3-Year Offer)

Funding Projections for the State Universities Retirement System

CoGFA Projections Based on Laws in Effect on June 30, 2023, Implement DROP Under House Floor Amendment No. 2 (Without Interest)
Actuarially Assumed Rate of Return: 6.50%
($ in millions)

			Compared to Exhibit B							
Fiscal Year Ending 6/30	Annual Payroll*	Total State Contribution	(Reduction)/ Increase in State Contribution	Present Value of (Reduction)/ Increase in State Contribution	State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
2023							$51,659.5	$23,381.2	$28,278.2	45.3%
2024	$5,382.1	$2,186.0	$0.0	$0.0	40.6%	$323.5	52,388.4	24,050.1	28,338.4	45.9%
2025	5,642.7	2,250.1	0.2	0.2	39.9%	338.1	53,089.5	24,918.9	28,170.5	46.9%
2026	5,760.0	2,296.8	0.2	0.2	39.9%	340.7	53,721.6	25,078.0	28,643.6	46.7%
2027	5,883.8	2,333.2	0.2	0.2	39.7%	344.0	54,285.6	25,655.1	28,630.5	47.3%
2028	6,029.3	2,430.8	0.2	0.2	40.3%	349.1	54,780.1	26,295.2	28,484.9	48.0%
2029	6,187.9	2,494.8	0.2	0.2	40.3%	355.2	55,199.9	26,941.4	28,258.6	48.8%
2030	6,349.8	2,556.0	0.2	0.2	40.3%	361.6	55,546.3	27,596.7	27,949.6	49.7%
2031	6,518.0	2,621.0	0.2	0.2	40.2%	368.2	55,816.1	28,266.8	27,549.3	50.6%
2032	6,691.6	2,694.3	0.3	0.1	40.3%	375.2	56,004.1	28,960.8	27,043.3	51.7%
2033	6,871.1	2,775.9	0.3	0.1	40.4%	382.4	56,131.3	29,713.8	26,417.5	52.9%
2034	7,058.0	2,878.9	0.3	0.1	40.8%	390.0	56,197.9	30,554.5	25,643.4	54.4%
2035	7,253.1	2,961.0	0.3	0.1	40.8%	398.0	56,215.5	31,482.6	24,732.9	56.0%
2036	7,450.5	3,043.9	0.3	0.1	40.9%	406.1	56,176.1	32,500.5	23,675.6	57.9%
2037	7,651.7	3,128.6	0.3	0.1	40.9%	414.3	56,088.6	33,628.4	22,460.2	60.0%
2038	7,858.8	3,215.7	0.3	0.1	40.9%	422.8	55,956.0	34,881.9	21,074.2	62.3%
2039	8,072.0	3,305.2	0.3	0.1	40.9%	431.6	55,794.1	36,289.2	19,504.9	65.0%
2040	8,294.0	3,398.4	0.3	0.1	41.0%	440.8	55,599.5	37,861.4	17,738.2	68.1%
2041	8,517.8	3,492.4	0.3	0.1	41.0%	450.1	55,391.9	39,629.5	15,762.5	71.5%
2042	8,749.7	3,589.7	0.3	0.1	41.0%	459.9	55,179.2	41,616.3	13,562.8	75.4%
2043	8,988.1	3,689.5	0.3	0.1	41.0%	470.1	54,982.4	43,858.0	11,124.4	79.8%
2044	9,233.5	3,792.2	0.4	0.1	41.1%	480.7	54,797.4	46,367.0	8,430.5	84.6%
2045	9,482.8	3,896.6	0.4	0.1	41.1%	491.4	54,641.9	49,177.8	5,464.2	90.0%
Total Through 2045		$65,031.0	$5.8	$2.8		$8,793.8				

* Includes payroll from Self Managed Plan (SMP)

Exhibit 2A – SERS Projection (DROP Implementation Under HA 3 [With Interest] – 3-Year Offer)

Funding Projections for the State Employees' Retirement System

CoGFA Projections Based on Laws in Effect on June 30, 2023, Implement DROP Under House Floor Amendment No. 3 (With Interest)

Actuarially Assumed Rate of Return: 6.75%

($ in millions)

			Compared to Exhibit A							
Fiscal Year Ending 6/30	Annual Payroll	Total State Contribution	(Reduction)/ Increase in State Contribution	Present Value of (Reduction)/ Increase in State Contribution	State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
2023							$54,043.2	$24,072.1	$29,971.1	44.5%
2024	$5,139.9	$2,583.8	$0.0	$0.0	50.3%	$287.0	55,207.1	25,172.1	30,035.0	45.6%
2025	5,223.0	2,554.3	1.6	1.5	48.9%	289.6	56,298.8	26,269.8	30,029.1	46.7%
2026	5,307.3	2,598.1	1.7	1.4	49.0%	292.4	57,312.9	26,655.4	30,657.5	46.5%
2027	5,391.3	2,636.4	1.7	1.4	48.9%	295.1	58,242.0	27,641.3	30,600.7	47.5%
2028	5,477.0	2,727.7	1.7	1.3	49.8%	297.8	59,086.9	28,675.8	30,411.1	48.5%
2029	5,569.8	2,752.2	1.8	1.2	49.4%	301.1	59,851.6	29,679.5	30,172.1	49.6%
2030	5,668.3	2,792.8	1.8	1.2	49.3%	304.8	60,539.8	30,673.7	29,866.1	50.7%
2031	5,772.3	2,837.3	1.8	1.1	49.2%	309.0	61,151.7	31,667.7	29,484.0	51.8%
2032	5,881.3	2,890.1	1.9	1.1	49.1%	313.2	61,662.8	32,650.8	29,012.0	53.0%
2033	5,992.3	2,949.5	1.9	1.0	49.2%	317.4	62,102.0	33,663.4	28,438.5	54.2%
2034	6,110.1	3,213.3	1.9	1.0	52.6%	321.9	62,469.1	34,923.1	27,546.0	55.9%
2035	6,231.9	3,277.4	2.0	0.9	52.6%	326.4	62,786.7	36,264.4	26,522.3	57.8%
2036	6,356.1	3,342.7	2.0	0.9	52.6%	330.9	63,036.7	37,680.7	25,356.0	59.8%
2037	6,482.8	3,409.3	2.0	0.8	52.6%	335.5	63,224.0	39,185.6	24,038.4	62.0%
2038	6,617.2	3,480.0	2.1	0.8	52.6%	340.6	63,358.2	40,801.0	22,557.2	64.4%
2039	6,758.7	3,554.4	2.1	0.8	52.6%	345.9	63,445.9	42,547.3	20,898.6	67.1%
2040	6,906.3	3,632.0	2.2	0.7	52.6%	351.5	63,493.0	44,446.0	19,047.0	70.0%
2041	7,059.9	3,712.8	2.2	0.7	52.6%	357.5	63,508.3	46,521.0	16,987.4	73.3%
2042	7,220.5	3,797.2	2.3	0.7	52.6%	363.8	63,502.9	48,797.0	14,705.9	76.8%
2043	7,388.0	3,885.3	2.3	0.7	52.6%	370.4	63,485.7	51,300.9	12,184.8	80.8%
2044	7,561.7	3,976.7	2.4	0.6	52.6%	377.2	63,463.9	54,058.9	9,405.0	85.2%
2045	7,741.0	4,071.0	2.4	0.6	52.6%	384.4	63,439.4	57,095.5	6,343.9	90.0%
Total Through 2045		$70,674.3	$41.8	$20.4		$7,213.4				

Exhibit 2B – SURS Projection (DROP Implementation Under HA 3 [With Interest] – 3-Year Offer)

Funding Projections for the State Universities Retirement System

CoGFA Projections Based on Laws in Effect on June 30, 2023, Implement DROP Under House Floor Amendment No. 3 (With Interest)

Actuarially Assumed Rate of Return: 6.50%

($ in millions)

			Compared to Exhibit B							
Fiscal Year Ending 6/30	Annual Payroll*	Total State Contribution	(Reduction)/ Increase in State Contribution	Present Value of (Reduction)/ Increase in State Contribution	State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
2023							$51,661.5	$23,381.2	$28,280.3	45.3%
2024	$5,382.1	$2,186.0	$0.0	$0.0	40.6%	$323.5	52,390.5	24,050.1	28,340.4	45.9%
2025	5,642.7	2,250.2	0.3	0.3	39.9%	338.1	53,091.6	24,919.1	28,172.5	46.9%
2026	5,760.0	2,296.9	0.3	0.3	39.9%	340.7	53,723.8	25,078.3	28,645.5	46.7%
2027	5,883.8	2,333.4	0.3	0.3	39.7%	344.0	54,287.9	25,655.5	28,632.3	47.3%
2028	6,029.3	2,430.9	0.4	0.3	40.3%	349.1	54,782.4	26,295.7	28,486.7	48.0%
2029	6,187.9	2,494.9	0.4	0.3	40.3%	355.2	55,202.3	26,942.1	28,260.3	48.8%
2030	6,349.8	2,556.1	0.4	0.2	40.3%	361.6	55,548.8	27,597.6	27,951.2	49.7%
2031	6,518.0	2,621.1	0.4	0.2	40.2%	368.2	55,818.8	28,267.9	27,550.8	50.6%
2032	6,691.6	2,694.4	0.4	0.2	40.3%	375.2	56,005.6	28,960.8	27,044.8	51.7%
2033	6,871.1	2,776.0	0.4	0.2	40.4%	382.4	56,131.9	29,712.9	26,419.0	52.9%
2034	7,058.0	2,879.1	0.4	0.2	40.8%	390.0	56,197.6	30,552.9	25,644.7	54.4%
2035	7,253.1	2,961.1	0.4	0.2	40.8%	398.0	56,215.3	31,481.1	24,734.2	56.0%
2036	7,450.5	3,044.1	0.4	0.2	40.9%	406.1	56,175.9	32,499.1	23,676.8	57.9%
2037	7,651.7	3,128.7	0.4	0.2	40.9%	414.3	56,088.6	33,627.2	22,461.4	60.0%
2038	7,858.8	3,215.8	0.5	0.2	40.9%	422.8	55,956.0	34,880.8	21,075.2	62.3%
2039	8,072.0	3,305.4	0.5	0.2	40.9%	431.6	55,794.2	36,288.3	19,505.9	65.0%
2040	8,294.0	3,398.6	0.5	0.2	41.0%	440.8	55,599.7	37,860.7	17,739.0	68.1%
2041	8,517.8	3,492.6	0.5	0.2	41.0%	450.1	55,392.2	39,629.0	15,763.2	71.5%
2042	8,749.7	3,589.8	0.5	0.2	41.0%	459.9	55,179.5	41,616.1	13,563.4	75.4%
2043	8,988.1	3,689.7	0.5	0.2	41.1%	470.1	54,982.8	43,858.0	11,124.8	79.8%
2044	9,233.5	3,792.4	0.5	0.1	41.1%	480.7	54,798.0	46,367.3	8,430.7	84.6%
2045	9,482.8	3,896.8	0.6	0.1	41.1%	491.4	54,642.6	49,178.4	5,464.3	90.0%
Total Through 2045		$65,034.0	$9.0	$4.5		$8,793.8				

* Includes payroll from Self Managed Plan (SMP)

Exhibit 3A – SERS Projection (Members of Depts. of Lottery and Juvenile Justice Eligible for Alternative Formula)

Funding Projections for the State Employees' Retirement System

CoGFA Projections Based on Laws in Effect on June 30, 2023, Alternative Formula Eligibility for Departments of Lottery and Juvenile Justice
Actuarially Assumed Rate of Return: 6.75%
($ in millions)

			Compared to Exhibit A							
Fiscal Year Ending 6/30	Annual Payroll	Total State Contribution	(Reduction)/ Increase in State Contribution	Present Value of (Reduction)/ Increase in State Contribution	State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
2023							$54,104.3	$24,072.1	$30,032.1	44.5%
2024	$5,139.9	$2,583.8	$0.0	$0.0	50.3%	$287.7	55,289.7	25,172.5	30,117.2	45.5%
2025	5,222.6	2,576.9	24.2	22.0	49.3%	290.1	56,403.7	26,293.1	30,110.6	46.6%
2026	5,306.8	2,621.0	24.5	20.8	49.4%	292.8	57,441.1	26,702.8	30,738.2	46.5%
2027	5,390.6	2,659.5	24.8	19.8	49.3%	295.4	58,394.8	27,713.9	30,680.9	47.5%
2028	5,476.2	2,751.3	25.3	18.8	50.2%	298.1	59,265.4	28,774.8	30,490.6	48.6%
2029	5,569.1	2,776.2	25.7	18.0	49.8%	301.4	60,056.8	29,805.8	30,251.1	49.6%
2030	5,667.7	2,817.2	26.2	17.1	49.7%	305.1	60,772.7	30,827.9	29,944.8	50.7%
2031	5,771.7	2,862.2	26.7	16.4	49.6%	309.2	61,413.0	31,850.4	29,562.5	51.9%
2032	5,880.4	2,915.4	27.1	15.6	49.6%	313.4	61,974.8	32,884.2	29,090.6	53.1%
2033	5,991.2	2,975.1	27.5	14.8	49.7%	317.5	62,461.5	33,944.1	28,517.3	54.3%
2034	6,108.5	3,239.1	27.7	14.0	53.0%	321.9	62,874.0	35,248.8	27,625.2	56.1%
2035	6,229.5	3,303.3	27.9	13.2	53.0%	326.5	63,218.0	36,616.2	26,601.8	57.9%
2036	6,352.4	3,368.5	27.8	12.3	53.0%	330.9	63,491.0	38,054.9	25,436.1	59.9%
2037	6,477.4	3,434.8	27.5	11.4	53.0%	335.4	63,696.7	39,578.0	24,118.7	62.1%
2038	6,609.5	3,504.8	26.9	10.4	53.0%	340.3	63,842.4	41,205.3	22,637.1	64.5%
2039	6,748.2	3,578.4	26.1	9.5	53.0%	345.5	63,933.5	42,956.3	20,977.2	67.2%
2040	6,892.7	3,655.0	25.2	8.6	53.0%	350.9	63,972.6	44,850.0	19,122.6	70.1%
2041	7,042.6	3,734.5	23.9	7.6	53.0%	356.7	63,965.7	46,908.0	17,057.8	73.3%
2042	7,199.6	3,817.7	22.7	6.8	53.0%	362.8	63,922.5	49,154.3	14,768.2	76.9%
2043	7,363.3	3,904.5	21.5	6.0	53.0%	369.2	63,847.0	51,611.7	12,235.3	80.8%
2044	7,532.3	3,994.1	19.8	5.2	53.0%	375.8	63,743.5	54,303.1	9,440.5	85.2%
2045	7,707.9	4,087.3	18.7	4.6	53.0%	382.8	63,615.7	57,254.1	6,361.6	90.0%
Total Through 2045		$71,160.6	$527.7	$272.9		$7,209.4				

Funding Projections for the State Employees' Retirement System

CoGFA Projections Based on Laws in Effect on June 30, 2023, Combined Changes Under House Floor Amendment No. 2 (Without Interest)
Actuarially Assumed Rate of Return: 6.75%
($ in millions)

Fiscal Year Ending 6/30	Annual Payroll	Total State Contribution	Compared to Exhibit A: (Reduction)/ Increase in State Contribution	Compared to Exhibit A: Present Value of (Reduction)/ Increase in State Contribution	State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
2023							$54,127.3	$24,072.1	$30,055.1	44.5%
2024	$5,139.9	$2,583.8	$0.0	$0.0	50.3%	$287.7	55,311.1	25,172.5	30,138.6	45.5%
2025	5,222.6	2,577.6	25.0	22.7	49.4%	290.1	56,423.8	26,293.9	30,129.9	46.6%
2026	5,306.8	2,621.8	25.3	21.5	49.4%	292.8	57,460.0	26,704.5	30,755.5	46.5%
2027	5,390.6	2,660.3	25.6	20.4	49.4%	295.4	58,412.8	27,716.5	30,696.3	47.4%
2028	5,476.2	2,752.1	26.1	19.4	50.3%	298.1	59,282.8	28,778.5	30,504.3	48.5%
2029	5,569.1	2,777.0	26.6	18.5	49.9%	301.4	60,073.8	29,810.5	30,263.3	49.6%
2030	5,667.7	2,818.1	27.1	17.7	49.7%	305.1	60,789.5	30,833.8	29,955.7	50.7%
2031	5,771.7	2,863.1	27.6	16.9	49.6%	309.2	61,429.9	31,857.7	29,572.2	51.9%
2032	5,880.4	2,916.2	28.0	16.1	49.6%	313.4	61,975.5	32,876.2	29,099.2	53.0%
2033	5,991.2	2,976.0	28.4	15.3	49.7%	317.5	62,448.3	33,923.2	28,525.1	54.3%
2034	6,108.5	3,240.0	28.6	14.4	53.0%	321.9	62,848.1	35,215.7	27,632.3	56.0%
2035	6,229.5	3,304.2	28.8	13.6	53.0%	326.5	63,192.4	36,583.9	26,608.5	57.9%
2036	6,352.4	3,369.4	28.7	12.7	53.0%	330.9	63,465.7	38,023.5	25,442.2	59.9%
2037	6,477.4	3,435.7	28.5	11.8	53.0%	335.4	63,671.9	39,547.6	24,124.2	62.1%
2038	6,609.5	3,505.8	27.8	10.8	53.0%	340.3	63,818.1	41,176.1	22,642.0	64.5%
2039	6,748.2	3,579.4	27.1	9.8	53.0%	345.5	63,909.7	42,928.4	20,981.3	67.2%
2040	6,892.7	3,656.0	26.2	8.9	53.0%	350.9	63,949.5	44,823.5	19,126.0	70.1%
2041	7,042.6	3,735.5	24.9	8.0	53.0%	356.7	63,943.4	46,883.1	17,060.3	73.3%
2042	7,199.6	3,818.8	23.8	7.1	53.0%	362.8	63,901.1	49,131.3	14,769.8	76.9%
2043	7,363.3	3,905.6	22.6	6.3	53.0%	369.2	63,826.6	51,590.8	12,235.8	80.8%
2044	7,532.3	3,995.3	20.9	5.5	53.0%	375.8	63,724.2	54,284.3	9,439.9	85.2%
2045	7,707.9	4,088.4	19.9	4.9	53.0%	382.8	63,597.6	57,237.8	6,359.8	90.0%
Total Through 2045		$71,180.1	$547.5	$282.3		$7,209.4				

Funding Projections for the State Employees' Retirement System

CoGFA Projections Based on Laws in Effect on June 30, 2023, Combined Changes Under House Floor Amendment No. 3 (With Interest)
Actuarially Assumed Rate of Return: 6.75%
($ in millions)

			Compared to Exhibit A							
Fiscal Year Ending 6/30	Annual Payroll	Total State Contribution	(Reduction)/ Increase in State Contribution	Present Value of (Reduction)/ Increase in State Contribution	State Contribution as Percent of Payroll	Total Employee Contribution	Actuarial Accrued Liability	Actuarial Value of Assets	Unfunded Liability	Funded Ratio
2023							$54,144.8	$24,072.1	$30,072.7	44.5%
2024	$5,139.9	$2,583.8	$0.0	$0.0	50.3%	$287.7	55,328.3	25,172.5	30,155.8	45.5%
2025	5,222.6	2,578.5	25.9	23.5	49.4%	290.1	56,440.9	26,294.8	30,146.1	46.6%
2026	5,306.8	2,622.7	26.2	22.3	49.4%	292.8	57,477.1	26,706.4	30,770.7	46.5%
2027	5,390.6	2,661.2	26.5	21.1	49.4%	295.4	58,430.0	27,719.5	30,710.6	47.4%
2028	5,476.2	2,753.0	27.0	20.1	50.3%	298.1	59,300.3	28,782.5	30,517.8	48.5%
2029	5,569.1	2,778.0	27.5	19.2	49.9%	301.4	60,091.8	29,815.8	30,276.0	49.6%
2030	5,667.7	2,819.0	28.0	18.3	49.7%	305.1	60,808.1	30,840.5	29,967.6	50.7%
2031	5,771.7	2,864.0	28.6	17.5	49.6%	309.2	61,449.2	31,865.7	29,583.5	51.9%
2032	5,880.4	2,917.2	29.0	16.6	49.6%	313.4	61,989.4	32,879.6	29,109.9	53.0%
2033	5,991.2	2,977.0	29.4	15.8	49.7%	317.5	62,457.8	33,922.6	28,535.2	54.3%
2034	6,108.5	3,241.1	29.6	14.9	53.1%	321.9	62,853.3	35,211.4	27,641.9	56.0%
2035	6,229.5	3,305.3	29.9	14.1	53.1%	326.5	63,198.2	36,580.6	26,617.6	57.9%
2036	6,352.4	3,370.5	29.8	13.2	53.1%	330.9	63,472.1	38,021.2	25,450.9	59.9%
2037	6,477.4	3,436.8	29.5	12.2	53.1%	335.4	63,679.0	39,546.6	24,132.4	62.1%
2038	6,609.5	3,506.9	28.9	11.2	53.1%	340.3	63,825.9	41,176.3	22,649.6	64.5%
2039	6,748.2	3,580.5	28.2	10.2	53.1%	345.5	63,918.3	42,930.0	20,988.3	67.2%
2040	6,892.7	3,657.2	27.3	9.3	53.1%	350.9	63,958.9	44,826.7	19,132.2	70.1%
2041	7,042.6	3,736.7	26.1	8.3	53.1%	356.7	63,953.8	46,888.0	17,065.7	73.3%
2042	7,199.6	3,820.0	25.0	7.5	53.1%	362.8	63,912.4	49,138.0	14,774.4	76.9%
2043	7,363.3	3,906.9	23.9	6.7	53.1%	369.2	63,838.9	51,599.5	12,239.5	80.8%
2044	7,532.3	3,996.5	22.2	5.8	53.1%	375.8	63,737.7	54,295.2	9,442.5	85.2%
2045	7,707.9	4,089.7	21.1	5.2	53.1%	382.8	63,612.3	57,251.0	6,361.2	90.0%
Total Through 2045		$71,202.5	$569.6	$293.0		$7,209.4				

FOSTER & FOSTER
ACTUARIES AND CONSULTANTS

November 8, 2024

Mr. Dan Hankiewicz
Illinois Commission on Government Forecasting and Accountability
T. 217.785.3122
E. DanH@ilga.gov

Re: Article 3 & 4 Illinois Pension Funds Cost Impact of Extending the Amortization Period and Adding a Deferred Retirement Option Program

Dear Mr. Hankiewicz,

This letter provides you with cost estimates for extending the amortization period of the unfunded actuarial accrued liability (UAAL) and implementing a Deferred Retirement Option Program (DROP) on Article 3 and 4 pension funds.

Cost Impact of Extending the Amortization Period

Based on HB 5843, we have estimated the impact of extending the amortization period of the UAAL on the selected Article 3 and 4 Illinois Pension Funds from the year 2040 to 2050. The results are shown in the attached exhibits:

- **Exhibit 1:** This displays the first-year impact on the pension contribution of changing the amortization period from a 2040 to a 2050 end date on the selected Article 3 funds.
- **Exhibit 2:** This shows two graphs, the first one illustrating how the amortization payment changes over time under each funding policy and the second displaying the impact on the funded status of pushing this date out the additional ten years. Aurora Police was selected as the sample fund for display, but the shape of this graph is similar for the other funds.
- **Exhibit 3:** This displays the first-year impact on the pension contribution of changing the amortization period from a 2040 to a 2050 end date on the selected Article 4 funds.
- **Exhibit 4:** This shows two graphs, the first one illustrating how the amortization payment changes over time under each funding policy and the second displaying the impact on the funded status of pushing this date out the additional ten years. Aurora Fire was selected as the sample fund for display, but the shape of this graph is similar for the other funds.

Cost Impact of DROP Enhancements

We have estimated the impact of implementing the DROP provisions as defined in HB 3765 on the following Article 3 and 4 Illinois Pension Funds:

Please see Exhibit 9 for more detailed information about DROP programs, including how they work and potential considerations when implementing DROP.

Assumptions and Methods

The assumptions and methods employed for the purpose of this measurement were consistent with the assumptions that the Firefighters' Pension Investment Fund (FPIF) and Illinois Police Officers Pension Investment Fund (IPOPIF) used for the 2023 actuarial valuation reports, without regard to phasing in the assumptions for the IPOPIF funds. When the plan changes are considered, we did revise the retirement rates to assume that 100% of members enter DROP upon reaching age 50 and 20 years of service. A summary of the assumptions can be found in Exhibits 10 (Article 3) and 11 (Article 4).

Data

In conducting this analysis, we have relied on personnel data supplied to us by the Illinois Department of Insurance with permission from the FPIF and IPOPIF to employ the data for purposes other than in the issuance of reports on behalf of the FPIF and IPOPIF. The effective date of the data varies by sample fund and is noted in the attached exhibits. While we cannot verify the accuracy of all this information, the supplied information was reviewed for consistency and reasonableness.

Discussion of Risk and Third-Party Software

These calculations were determined for the purpose of estimating the cost impact of this proposed legislation. Use of the results for other purposes may not be applicable and produce significantly different results. Future actuarial measurements may differ significantly from the current measurements presented in this letter for a variety of reasons including: changes in applicable laws, changes in plan provisions, changes in assumptions, or plan experience differing from expectations.

ASOP No. 51, Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions, states that the actuary should identify risks that, in the actuary's professional judgment, may reasonably be anticipated to significantly affect the plan's future financial condition. These results are based on the premise that all future plan experience will align with the plan's actuarial assumptions; however, there is no guarantee that actual plan experience will align with the plan's assumptions. It is possible that actual plan experience will differ from anticipated experience in an unfavorable manner that will negatively impact the plan's funded position. Measurement of the impact of potential deviation from the actuarial assumptions is outside the scope of this assessment, however, it is important to note that the estimate provided is produced at a single point in time and subject to the demographics as they exist on the valuation date and the actuarial assumptions used to determine the cost impact.

Exhibit 1

Article 3 Funding Policy Impact

	Aurora Police		Crystal Lake Police		Rock Falls Police	
	Original Funding Policy - Amortization through 2040	Proposed Funding Policy - Amortization through 2050	Original Funding Policy - Amortization through 2040	Proposed Funding Policy - Amortization through 2050	Original Funding Policy - Amortization through 2040	Proposed Funding Policy - Amortization through 2050
Funded Status						
Total Actuarial Accrued Liability (AL)	$526,040,040	$526,040,040	$91,373,110	$91,373,110	$17,544,950	$17,544,950
Actuarial Value of Assets (AVA)	310,851,034	310,851,034	52,409,956	52,409,956	8,947,716	8,947,716
Unfunded Actuarial Accrued Liability (UAAL)	215,189,006	215,189,006	38,963,154	38,963,154	8,597,234	8,597,234
90% Funded Ratio Target	473,436,036	473,436,036	82,235,799	82,235,799	15,790,455	15,790,455
Funded Ratio (AVA / AL)	59.1%	59.1%	57.4%	57.4%	51.0%	51.0%
Pension Cost						
Normal Cost, Including Expense Load	$10,285,927	$10,285,927	$1,909,220	$1,909,220	$354,691	$354,691
Payment Required to Amortize UAAL	12,896,561	9,693,108	2,464,725	1,816,301	565,465	416,701
Total Recommended Contribution	23,182,488	19,979,035	4,373,945	3,725,521	920,156	771,392
Expected Member Contributions	(3,942,892)	(3,942,892)	(721,587)	(721,587)	(151,078)	(151,078)
Expected Village Contribution	19,239,596	16,036,143	3,652,358	3,003,934	769,078	620,314
Change from Baseline		*(3,203,453)*		*(648,424)*		*(148,764)*
Assumptions and Methods						
Interest Rate	6.80%	6.80%	6.80%	6.80%	6.80%	6.80%
Funded Target	90%	90%	90%	90%	90%	90%
Amortization Years	18	28	17	27	17	27
Payroll Growth Assumption	3.00%	3.00%	3.00%	3.00%	3.00%	3.00%
Cost Method	EAN	EAN	EAN	EAN	EAN	EAN
Valuation Date	1/1/2023	1/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023
Applicable to Fiscal Year Ending	12/31/2023	12/31/2023	4/30/2024	4/30/2024	4/30/2024	4/30/2024

Exhibit 3

Article 4 Funding Policy Impact

	Aurora Fire		Crystal Lake Fire		Rock Falls Fire	
	Original Funding Policy - Amortization through 2040	Proposed Funding Policy - Amortization through 2050	Original Funding Policy - Amortization through 2040	Proposed Funding Policy - Amortization through 2050	Original Funding Policy - Amortization through 2040	Proposed Funding Policy - Amortization through 2050
Funded Status						
Total Actuarial Accrued Liability (AL)	$386,970,577	$386,970,577	$70,392,034	$70,392,034	$11,688,948	$11,688,948
Actuarial Value of Assets (AVA)	234,445,183	234,445,183	54,157,162	54,157,162	8,882,051	8,882,051
Unfunded Actuarial Accrued Liability (UAAL)	152,525,394	152,525,394	16,234,872	16,234,872	2,806,897	2,806,897
90% Funded Ratio Target	348,273,519	348,273,519	63,352,831	63,352,831	10,520,053	10,520,053
Funded Ratio (AVA / AL)	60.6%	60.6%	76.9%	76.9%	76.0%	76.0%
Pension Cost						
Normal Cost, Including Expense Load	$7,684,199	$7,684,199	$2,023,506	$2,023,506	$237,389	$237,389
Payment Required to Amortize UAAL	9,433,661	7,229,261	792,271	595,470	141,125	106,070
Total Recommended Contribution	17,117,860	14,913,460	2,815,777	2,618,976	378,514	343,459
Expected Member Contributions	(2,840,892)	(2,840,892)	(669,095)	(669,095)	(93,205)	(93,205)
Expected Village Contribution	14,276,968	12,072,568	2,146,682	1,949,881	285,309	250,254
Change from Baseline		*(2,204,400)*		*(196,801)*		*(35,055)*
Assumptions and Methods						
Interest Rate	7.125%	7.125%	7.125%	7.125%	7.125%	7.125%
Funded Target	90%	90%	90%	90%	90%	90%
Amortization Years	18	28	17	27	17	27
Payroll Growth Assumption	2.75%	2.75%	2.75%	2.75%	2.75%	2.75%
Cost Method	EAN	EAN	EAN	EAN	EAN	EAN
Valuation Date	1/1/2023	1/1/2023	5/1/2023	5/1/2023	5/1/2023	5/1/2023
Applicable to Fiscal Year Ending	12/31/2023	12/31/2023	4/30/2024	4/30/2024	4/30/2024	4/30/2024

Exhibit 5

Article 3 DROP Impact - Aurora Police

	Baseline	Scen 1: 100% Enter, 5 Years in DROP			Scen 2: 80% Enter, 3 Years in DROP		
		DROP	Impact, $	Impact, %	DROP	Impact, $	Impact, %
Municipal Contribution							
2023	19,239,596	21,174,654	1,935,058	10.1%	20,727,044	1,487,448	7.7%
2024	19,512,128	21,528,412	2,016,284	10.3%	21,061,847	1,549,719	7.9%
2025	20,080,503	22,181,720	2,101,217	10.5%	21,695,329	1,614,826	8.0%
2026	20,606,297	20,691,298	85,001	0.4%	20,316,516	(289,781)	-1.4%
2027	21,117,430	20,896,238	(221,192)	-1.0%	20,578,506	(538,924)	-2.6%
2028	21,687,673	21,502,462	(185,211)	-0.9%	21,219,856	(467,817)	-2.2%
2029	22,319,155	22,488,710	169,555	0.8%	22,209,945	(109,210)	-0.5%
2030	22,968,469	23,392,831	424,362	1.8%	23,254,797	286,328	1.2%
2031	23,701,396	24,319,233	617,837	2.6%	24,279,868	578,472	2.4%
2032	24,518,629	25,601,308	1,082,679	4.4%	25,332,075	813,446	3.3%
2033	25,405,409	26,764,125	1,358,716	5.3%	26,399,040	993,631	3.9%
2034	26,430,284	28,007,351	1,577,067	6.0%	27,575,298	1,145,014	4.3%
2035	27,634,214	29,351,650	1,717,436	6.2%	28,901,823	1,267,609	4.6%
2036	29,049,780	30,882,119	1,832,339	6.3%	30,412,974	1,363,194	4.7%
2037	30,768,082	32,689,527	1,921,445	6.2%	32,198,978	1,430,896	4.7%
2038	32,940,759	34,926,814	1,986,055	6.0%	34,411,712	1,470,953	4.5%
2039	35,981,710	38,002,256	2,020,546	5.6%	37,456,855	1,475,145	4.1%
2040	41,428,845	43,413,782	1,984,937	4.8%	42,822,172	1,393,327	3.4%
Present Value Of Impact	262,469,639		12,664,240	4.8%		8,577,586	3.3%
Normal Cost							
2023	9,442,175	10,154,969	712,794	7.5%	9,984,992	542,817	5.7%
2024	9,589,684	10,350,948	761,264	7.9%	10,169,413	579,729	6.0%
2025	9,738,857	10,551,887	813,030	8.3%	10,358,008	619,151	6.4%
2026	9,818,982	8,159,113	(1,659,869)	-16.9%	8,073,532	(1,745,450)	-17.8%
2027	9,840,096	8,076,551	(1,763,545)	-17.9%	8,045,286	(1,794,810)	-18.2%
2028	9,867,165	8,234,700	(1,632,465)	-16.5%	8,234,601	(1,632,564)	-16.5%
2029	9,910,616	8,734,231	(1,176,385)	-11.9%	8,734,231	(1,176,385)	-11.9%
2030	9,921,493	9,040,241	(881,252)	-8.9%	9,040,241	(881,252)	-8.9%
2031	9,937,548	9,296,569	(640,979)	-6.5%	9,296,569	(640,979)	-6.5%
2032	9,958,646	9,510,382	(448,264)	-4.5%	9,510,382	(448,264)	-4.5%
2033	9,948,837	9,652,276	(296,561)	-3.0%	9,652,276	(296,561)	-3.0%
2034	9,951,196	9,770,437	(180,759)	-1.8%	9,770,437	(180,759)	-1.8%
2035	9,986,656	9,893,381	(93,275)	-0.9%	9,893,381	(93,275)	-0.9%
2036	10,040,414	10,013,819	(26,595)	-0.3%	10,013,819	(26,595)	-0.3%
2037	10,117,414	10,140,737	23,323	0.2%	10,140,737	23,323	0.2%
2038	10,215,076	10,275,909	60,833	0.6%	10,275,909	60,833	0.6%
2039	10,356,658	10,446,474	89,816	0.9%	10,446,474	89,816	0.9%
2040	10,566,569	10,679,778	113,209	1.1%	10,679,778	113,209	1.1%
Present Value Of Impact	107,689,171		(3,924,591)	-3.6%		(4,528,876)	-4.2%

Exhibit 7

Article 4 DROP Impact - Aurora Fire

	Baseline	Scen 1: 100% Enter, 5 Years in DROP			Scen 2: 80% Enter, 3 Years in DROP		
		DROP	Impact, $	Impact, %	DROP	Impact, $	Impact, %
Municipal Contribution							
2023	14,276,968	16,436,053	2,159,085	15.1%	16,085,373	1,808,405	12.7%
2024	14,308,612	16,557,655	2,249,043	15.7%	16,192,269	1,883,657	13.2%
2025	14,520,033	16,863,351	2,343,318	16.1%	16,482,552	1,962,519	13.5%
2026	14,749,456	14,436,301	(313,155)	-2.1%	14,162,171	(587,285)	-4.0%
2027	15,028,887	14,869,560	(159,327)	-1.1%	14,623,395	(405,492)	-2.7%
2028	15,353,789	15,143,299	(210,490)	-1.4%	14,930,982	(422,807)	-2.8%
2029	15,753,634	15,856,945	103,311	0.7%	15,651,500	(102,134)	-0.6%
2030	16,218,742	16,578,341	359,599	2.2%	16,543,719	324,977	2.0%
2031	16,763,354	17,343,727	580,373	3.5%	17,393,530	630,176	3.8%
2032	17,394,843	18,551,061	1,156,218	6.6%	18,309,150	914,307	5.3%
2033	18,117,008	19,537,269	1,420,261	7.8%	19,257,267	1,140,259	6.3%
2034	18,944,054	20,608,760	1,664,706	8.8%	20,271,783	1,327,729	7.0%
2035	19,885,495	21,713,811	1,828,316	9.2%	21,364,493	1,478,998	7.4%
2036	20,985,515	22,948,760	1,963,245	9.4%	22,586,126	1,600,611	7.6%
2037	22,308,808	24,375,583	2,066,775	9.3%	23,998,318	1,689,510	7.6%
2038	23,975,149	26,116,846	2,141,697	8.9%	25,722,968	1,747,819	7.3%
2039	26,290,764	28,467,454	2,176,690	8.3%	28,053,354	1,762,590	6.7%
2040	30,420,038	32,544,262	2,124,224	7.0%	32,099,937	1,679,899	5.5%
Present Value Of Impact	184,554,247		13,054,597	7.1%		10,052,090	5.4%
Normal Cost							
2023	7,032,465	7,826,625	794,160	11.3%	7,695,207	662,742	9.4%
2024	6,990,973	7,841,716	850,743	12.2%	7,700,934	709,961	10.2%
2025	6,904,162	7,815,521	911,359	13.2%	7,664,709	760,547	11.0%
2026	6,800,406	4,548,400	(2,252,006)	-33.1%	4,499,246	(2,301,160)	-33.8%
2027	6,703,690	4,967,920	(1,735,770)	-25.9%	4,941,362	(1,762,328)	-26.3%
2028	6,611,145	4,841,086	(1,770,059)	-26.8%	4,840,994	(1,770,151)	-26.8%
2029	6,546,551	5,165,269	(1,381,282)	-21.1%	5,165,269	(1,381,282)	-21.1%
2030	6,500,636	5,411,779	(1,088,857)	-16.8%	5,411,779	(1,088,857)	-16.8%
2031	6,477,022	5,642,672	(834,350)	-12.9%	5,642,672	(834,350)	-12.9%
2032	6,482,052	5,859,633	(622,419)	-9.6%	5,859,633	(622,419)	-9.6%
2033	6,502,613	6,054,992	(447,621)	-6.9%	6,054,992	(447,621)	-6.9%
2034	6,540,292	6,233,252	(307,040)	-4.7%	6,233,252	(307,040)	-4.7%
2035	6,582,568	6,387,266	(195,302)	-3.0%	6,387,266	(195,302)	-3.0%
2036	6,631,836	6,526,998	(104,838)	-1.6%	6,526,998	(104,838)	-1.6%
2037	6,696,141	6,662,148	(33,993)	-0.5%	6,662,148	(33,993)	-0.5%
2038	6,775,169	6,797,562	22,393	0.3%	6,797,562	22,393	0.3%
2039	6,876,770	6,942,807	66,037	1.0%	6,942,807	66,037	1.0%
2040	6,995,530	7,094,147	98,617	1.4%	7,094,147	98,617	1.4%
Present Value Of Impact	71,806,381		(4,874,481)	-6.8%		(5,328,951)	-7.4%

Exhibit 9

Drop Background

In its simplest terms, a DROP affords eligible participants (who are otherwise eligible to retire) the opportunity to continue employment (and earn wages) in conjunction with commencing their pension benefits that they would have received had they retired (directed to a notional, deferred account). Upon election to participate in DROP, a participant's pension benefit is frozen (based upon service, salary, and age) and calculated as if the participant were retiring on the effective DROP date. After the effective DROP date, such benefits are credited to a notional DROP account while the participant continues employment earning regular compensation. At the time of termination of employment, participants receive their accumulated DROP account balance in the form of a lump-sum and begin collecting the monthly benefit in retirement. Note that the participant is forfeiting future benefit accruals in exchange for the DROP lump-sum, which is typically perceived to be of approximate equivalent value.

A primary objective of a DROP surrounds employee retention. It can provide members with an attractive financial benefit to extend their anticipated retirement age while minimizing costs associated with recruiting and training new employees. DROPs were first introduced in the early 1980s and spread in material fashion starting in the mid-1990s by public-sector employers and have become a highly attractive and utilized benefit design feature for public pension programs across the country. DROPs are most common for uniformed employees and are less common for non-public safety employees. DROPs are typically implemented by local and state governments to meet human resource management and financial objectives and are viewed as a benefit enhancement to plan participants. During the 1990s, pension plans were in strong financial shape thanks to favorable investment returns. Many plan sponsors added DROP at that time to provide an enhanced benefit for its members and help them manage their workforce.

During the 2000s, the public perception of DROP changed. This was driven by a combination of poor investment returns and a few horror stories. First, positive investment returns were nearly non-existent because of the tech bubble bursting and then the financial crisis of 2008. The funded ratio of nearly every pension plan was decreasing rapidly. DROP was viewed as a benefit enhancement and was often the first cut to be made as people tried to find ways to stabilize their sky-rocketing pension contributions. Finally, there were a few cases where the DROP benefits were so lucrative to the members that it put the long-term viability of the pension plan in jeopardy. In these cases, the DROP provisions were guaranteeing excessive returns for the members and drastically increasing the investment risk for the plan sponsor. Some members were withdrawing DROP balances that were millions of dollars while the plan sponsor was struggling to make the annual contributions.

As a result of this changed perception, many plan sponsors eliminated DROP for future members and very few plan sponsors decided to add the DROP provision during the 2010s. Most places continued to find ways to manage their pension contributions by decreasing benefits for current members, creating new tiers of benefits for future members and adopting new funding policies. Very few places looked to provide any sort of benefit enhancement (including DROP) during the decade.

In the past few years, the interest in DROP has once again started to increase. For a variety of reasons, fewer people have been interested in pursuing a career in public safety, so the candidate pool has decreased dramatically. We hear stories from people across the country about how they used to get hundreds of applicants when they had openings but now, they only have a few dozen candidates. This has made people find new ways to keep these positions filled. One way to do that is to incentivize people near retirement to stay longer, and DROP helps achieve that goal. Many municipalities have either implemented a new DROP or are currently considering the implementation of DROP. The plan sponsors going down this path are being much more judicious with the DROP provisions to minimize the negative impact on the long-term health of the pension fund.

- ❖ Reduce the percentage of the benefit credited to the DROP account. For example, 90% of the accrued benefit is credited during DROP participation which reverts to the full amount at the time of actual retirement.
- ❖ Increase the final compensation period (i.e., from 3 years to 5 years) only for purposes of calculating DROP benefits.
- ❖ Withhold, suspend, or reduce application of COLA increases during DROP participation.
- ❖ Provide low interest crediting on DROP accounts below the system's actual or expected rate of return.
- ❖ Shorten the maximum DROP participation period.
- ❖ Retain the amount (or a portion thereof) of member contributions made during DROP to the participant's DROP account.

Drop Design: Additional Considerations

Actuarial Standards of Practice (ASOP) No. 51, *Assessment and Disclosure of Risk Associated with Measuring Pension Obligations and Determining Pension Plan Contributions*, states that the actuary should identify risks that, in the actuary's professional judgment, may reasonably be anticipated to significantly affect the plan's future financial condition. As previously introduced, any actuarial analysis to evaluate whether a DROP program is deemed to be cost neutral will be predicated on a set of actuarial assumptions based on the premise that all future experience will align with this set of actuarial assumptions. However, we have established that participant behavior is uncertain, and it is possible that actual experience will differ from anticipated experience in an unfavorable manner that will negatively impact the plan. As a reminder, the true cost of any DROP cannot be fully recognized until each DROP participant ultimately becomes deceased and all payments are made; actuarial assumptions and methods are just tools to estimate and allocate costs.

Below we have included a non-exhaustive list of potential risks or additional factors that must be considered when evaluating whether DROP has a financial impact on the retirement system.

- ❖ ***Adverse Selection*** – Whenever participants are given a choice (for example, to elect DROP, to retire, or to remain active without electing DROP), it is important to consider that adverse selection is likely to occur periodically on an individual basis. That is, participants are likely to make strategic decisions which will be most beneficial to them, affecting the amount and duration of anticipated benefit payments, resulting in higher overall plan costs. For example, a member may not elect to enter DROP if they are in line for a promotion or are expecting a significant increase in pay, or individuals with awareness of health conditions may elect DROP for greater immediate payouts.

- ❖ ***Administrative Expenses*** – Implementing new benefit features such as DROP comes with an increase in the level of administrative expenses required by the system. Typically, participants are required to receive a DROP benefit statement annually and each member, before electing to participate in DROP, may be given written information regarding how benefits under DROP would be calculated and a comparison of the member's anticipated benefits at retirement with and without DROP participation. Complying with these requirements will either require additional staff, investment in administrative software, or both, along with an expected increase in IT costs.

- ❖ ***Impact on Retiree Healthcare (OPEB) Liability*** – It is likely that the existence of DROP will result in a decrease to the OPEB liability of the system. Members in DROP are considered 'active' employees from an OPEB perspective and implementation of DROP results in higher retirement ages which means the overall OPEB liability will likely be less than it would have if DROP did not exist. It is also likely due to pooling in determining healthcare premiums, there would be an increase in active health costs.

Exhibit 10
Article 3 Assumptions

Interest Rate	6.80% per year compounded annually, net of investment related expenses.
Mortality Rate	***Active Lives:*** PubS-2010 Employee mortality, unadjusted, with generational improvements with most recent projection scale (currently Scale MP-2021). 10% of active deaths are assumed to be in the line of duty. ***Inactive Lives:*** PubS-2010 Healthy Retiree mortality, adjusted by a factor of 1.15 for male retirees and unadjusted for female retirees, with generational improvements with most recent projection scale (currently Scale MP-2021). ***Beneficiaries:*** PubS-2010 Survivor mortality, unadjusted for male beneficiaries and adjusted by a factor of 1.15 for female beneficiaries, with generational improvements with most recent projection scale (currently Scale MP-2021). ***Disabled Lives:*** PubS-2010 Disabled mortality, adjusted by a factor of 1.08 for male disabled members and unadjusted for female disabled members, with generational improvements with most recent projection scale (currently Scale MP-2021). The mortality assumptions sufficiently accommodate anticipated future mortality improvements.
Retirement Age	See table at end of this section. This is based on a 2022 experience study performed for the Illinois Police Officers' Pension Investment Fund.
Disability Rate	See table at end of this section. 60% of the disabilities are assumed to be in the line of duty. This is based on a 2022 experience study performed for the Illinois Police Officers' Pension Investment Fund.
Termination Rate	See table at end of this section. This is based on a 2022 experience study performed for the Illinois Police Officers' Pension Investment Fund.

Decrement Tables

% Terminating During the Year	
Service	Rate
0	13.00%
1	8.00%
2	7.00%
3	6.00%
4	5.00%
5	4.50%
6	4.00%
7	3.50%
8	3.00%
9	2.50%
10	2.25%
11	2.00%
12	1.75%
13	1.50%
14+	1.25%

% Becoming Disabled During the Year	
Age	Rate
20	0.000%
25	0.029%
30	0.133%
35	0.247%
40	0.399%
45	0.561%
50	0.675%
55	0.855%
60	1.093%

% Retiring During the Year (Tier 1)	
Age	Rate
50 - 54	20%
55 - 62	25%
63	33%
64	40%
65 - 69	55%
70+	100%

% Retiring During the Year (Tier 2)	
Age	Rate
50 - 54	5%
55	40%
56 - 62	25%
63	33%
64	40%
65 - 69	55%
70+	100%

Cost-of-Living Adjustment	Tier 1: 3.00% per year after age 55. Those that retire prior to age 55 receive an increase of 1/12 of 3.00% for each full month since benefit commencement upon reaching age 55. Tier 2: 1.125% per year after the later of attainment of age 60 or first anniversary of retirement.
Salary Increases	See table below, inclusive of inflation. This is based on a 2021 experience study performed for the Illinois Firefighters' Pension Investment Fund.

Salary Scale	
Service	Rate
0	12.50%
1	10.50%
2	9.50%
3	8.50%
4	7.50%
5	6.50%
6	5.00%
7	4.50%
8+	4.00%

Marital Status	80% of Members are assumed to be married.
Spouse's Age	Males are assumed to be three years older than females.
Funding Method	Projected Unit Credit Cost Method.
Actuarial Asset Method	Investment gains and losses are smoothed over a 5-year period. In the first year, 20% of the gain or loss is recognized. In the second year 40%, in the third year 60%, in the fourth year 80%, and in the fifth year 100% of the gain or loss is recognized. The actuarial investment gain or loss is defined as the actual return on investments minus the actuarial assumed investment return. Actuarial Assets shall not be less than 80% nor greater than 120% of the Market Value of Assets.
Funding Policy Amortization Method	The UAAL is amortized according to a Level Percentage of Payroll method over a period ending in 2040. The initial amortization amount is 90% of the Accrued Liability less the Actuarial Value of Assets.
Payroll Growth	2.75% per year.